

WHAT IS CLAIMED IS:

1. A multi-stage amplifier comprising:
  - a first amplifier stage that includes
    - a first input line having a first input end and a second input end, wherein a first signal is input to the first input end;
    - a first input terminal block connected to the second input end;
    - a first amplifier circuit amplifying the first signal;
    - a first output line having a first output end and a second output end, wherein the first signal amplified is output from the first output end; and
    - a first output terminal block connected to the second output end;
  - a second amplifier stage that includes
    - a second input line having a third input end and a fourth input end, wherein a second signal is input to the third input end;
    - a second input terminal block connected to the fourth input end;
    - a second amplifier circuit amplifying the second signal;
    - a second output line having a third output end and a fourth output end, wherein the second signal amplified is output from the third output end; and
    - a second output terminal block connected to the fourth output end;
- 25 a first capacitor connected between the first output end and the

third input end; and

a second capacitor connected to any one of the first input terminal block, the first output terminal block, the second input terminal block, and the second output terminal block.

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2. The multi-stage amplifier according to claim 1, wherein the second input terminal block includes a resistor, and the second capacitor is connected between the resistor and a ground line.

10 3. The multi-stage amplifier according to claim 1, wherein the second output terminal block includes a resistor, and the second capacitor is connected between the resistor and a ground line.

15 4. The multi-stage amplifier according to claim 1, wherein the first output terminal block includes a resistor, and the second capacitor is connected between the resistor and a ground line.

20 5. The multi-stage amplifier according to claim 1, wherein the first input terminal block includes a resistor, and the second capacitor is connected between the resistor and a ground line.

6. The multi-stage amplifier according to claim 1, wherein each of the first and second amplifier stages is a distributed-circuit.

25 7. The multi-stage amplifier according to claim 6, wherein each of

the first and second amplifier circuits includes a plurality of cascode amplifiers connected in parallel between the input line and the output line.

5 8. The multi-stage amplifier according to claim 1, wherein each of the first and second amplifier stages is a lumped-circuit.

9. The multi-stage amplifier according to claim 1, further comprising a resistor connected in parallel with the first capacitor.

10 10. The multi-stage amplifier according to claim 9, wherein the first amplifier stage, the second amplifier stage, the first capacitor, the second capacitor, and the resistor are integrated on a single semiconductor substrate.

15 11. The multi-stage amplifier according to claim 1, wherein the first amplifier stage, the second amplifier stage, and the first capacitor, the second capacitor are integrated on a single semiconductor substrate.

20 12. The multi-stage amplifier according to claim 1, wherein each of the first and second amplifier stages is a field effect transistor circuit.

13. The multi-stage amplifier according to claim 1, wherein each of the first and second amplifier stages is a bipolar transistor circuit.